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Serial No. 09/714,292

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IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

Please CANCEL claims 1, 6, 7 and 8 and AMEND claims 2, 9, 10, 15 and 16 in accordance with the following:

1. (Cancelled)

2. (Currently Amended) An image processing apparatus for subjecting a medical image to an image processing by using a photography device, comprising:

a data obtaining section to obtain the medical image, and to identify the photography device and photography conditions used to obtain the medical image;

an image processing condition storing section to store image processing conditions that correspond respectively to various photography devices and photography conditions such that each image processing condition corresponds to a single photography device; and

an image processing section to read from said image processing condition storing section the image processing condition corresponding to the photography device and photography conditions used to obtain the medical image, and to subject the medical image obtained by said data obtaining section to the image processing in accordance with the image processing condition read by the image processing section

an image display section to display the medical image subjected to the image processing by said image processing section; wherein and

an interested area designating section to designate an area of interest on the medical image displayed in said image display section in response to an operation, wherein

said image display section lowers a luminance of an area, excluding the area of interest designated by said interested area designating section, to display the medical image

said image processing section subjects the medical image obtained by said data obtaining section to at least a gradation conversion processing and a frequency emphasis processing,

said image processing condition storing section stores a gradation conversion function used for the gradation conversion processing in accordance with the type of the

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photographyimaging device and target; and a frequency emphasis function used for the frequency emphasis processing and indicating a degree of frequency emphasis in which an average density around respective points of the medical image is used as a variable in accordance with the type of the photography device and the photography condition,

gradation conversion processing and frequency emphasis processing are performed differently for different photography devices and different photography conditions, and

the image processing section performs gradation conversion processing based on a plurality of gradation processing parameters that are individually input by a user, each gradation processing parameter relating to how a different aspect of an original image is translated into a revised image,

said interested area designating section designates the area of interest on the medical image displayed in said image display section and designates a coefficient indicating a degree of drop of the luminance of the area, excluding the area of interest, in response to the operation, and

said image display section lowers the luminance of the area, excluding the area of interest designated by said interested area designating section, down to a luminance in accordance with the coefficient designated by said interested area designating section to display the medical image.

3. (Cancelled)

4. (Previously Presented) The image processing apparatus according to claim 2, wherein, before the gradation conversion processing, said image processing section subjects the medical image, obtained by said data obtaining section, to a luminance correction processing using a dynamic range compression function in which the average density around the respective points of the medical image is used as the variable.

5. (Previously Presented) The image processing apparatus according to claim 2, further comprising:

an image processing condition operating section to add, to change, and to delete said image processing condition in response to an operation.

6-8. (Cancelled)

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9. (Currently Amended) The image processing apparatus according to claim 27, further comprising:

a part recognizing section to recognize positions of a plurality of parts appearing in the medical image,

wherein said image processing section subjects the area of interest, designated by said interested area designating section, to the image processing in accordance with a respective one of the plurality of parts appearing in the area of interest, and being among the plurality of parts having positions thereof which are recognized by said part recognizing section.

10. (Currently Amended) The image processing apparatus according to claim 27, wherein said image display section arranges and displays a plurality of medical images, and

said image display section applies a common area of interest as that of the area of interest designated by said interested area designating section with respect to one medical image among the plurality of medical images displayed in the image display section to the plurality of medical images, and in each of the medical images lowers a luminance of a common area, excluding the common area of interest to display the plurality of medical images.

11. (Previously Presented) The image processing apparatus according to claim 6, further comprising:

a scanning processing designating section to designate, in response to an operation, a scanning processing to set an area of interest on the medical image displayed in said image display section and to move the area of interest in a predetermined direction,

wherein said image display section displays, in accordance with the scanning processing by said scanning processing designating section, the medical image in which the area of interest successively moves, and a luminance of an area, excluding the area of interest, is lowered.

12. (Previously Presented) The image processing apparatus according to claim 11, further comprising:

a part recognizing section to recognize positions of a plurality of parts appearing in the medical image,

wherein said image processing section subjects the area of interest, which is successively moved, to the image processing in accordance with a respective one of the plurality of parts appearing in the area of interest, which is successively moved, and being among the plurality of parts having positions thereof which are recognized by said part recognizing section.

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13. (Previously Presented) The image processing apparatus according to claim 11, wherein said image display section arranges and displays, in accordance with the scanning processing by said scanning processing designating section, a plurality of medical images each having a common area of interest, which is common between the plurality of medical images, the common areas being set at corresponding positions and with corresponding timings and synchronously moved at corresponding speeds.

14. (Previously Presented) The image processing apparatus according to claim 2, wherein said data obtaining section obtains a radiation image as said medical image.

15. (Currently Amended) An image processing method to subject a medical image to an image processing by using an imaging device, comprising:

obtaining the medical image;

identifying the imaging device and imaging conditions used to obtain the medical image;

storing image processing conditions corresponding respectively to various imaging devices and imaging conditions such that each image processing condition corresponds to a single imaging device; and

subjecting the obtained medical image to image processing in accordance with the image processing condition corresponding to the imaging device and the imaging conditions used to obtain the medical image, wherein;

displaying the medical image subjected to the image processing;

designating an area of interest on the displayed medical image in response to an operation; and

lowering a luminance of an area, excluding the area of interest, to display the medical image, wherein

the medical image obtained is subjected to at least a gradation conversion processing and a frequency emphasis processing,

a frequency emphasis function is performed in which gradation conversion function and an average density around respective points of the medical image are used as variables in accordance with the type of the imagingphotography device and the imagingphotography conditions,

gradation conversion processing and frequency emphasis processing are performed differently for different imaging devices and different imaging conditions, and

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gradation conversion processing is performed by individually changing a plurality of gradation processing parameters, each gradation processing parameter relating to how a different aspect of an original image is translated into a revised image,

in designating the area of interest on the displayed medical image, a coefficient is designated indicating a degree of drop of the luminance of the area, excluding the area of interest, in response to the operation, and

the luminance of the area, excluding the area of interest, is reduced in accordance with the coefficient, to display the medical image.

16. (Currently Amended) An image processing program embodied on a computer readable storage medium to operate a computer system to subject a medical image to an image processing, which medical image was obtained using an imaging device, wherein said image processing program comprises:

a data obtaining section to obtain the medical image, and identify the imaging device and imaging conditions used to obtain the medical image;

a condition storing section to store image processing conditions corresponding respectively to various imaging devices and imaging conditions such that each image processing condition corresponds to a single imaging device; and

an image processing section to subject the medical image to image processing in accordance with an image processing condition corresponding to the imaging device and imaging conditions used to obtain the medical image, wherein;

an image display section to display the medical image subjected to the image processing by said image processing section; and

an interested area designating section to designate an area of interest on the medical image displayed in said image display section in response to an operation, wherein

said image display section lowers a luminance of an area, excluding the area of interest designated by said interested area designating section, to display the medical image,

said image processing section subjects the medical image obtained by said data obtaining section to at least a gradation conversion processing and a frequency emphasis processing,

said condition storing section stores a gradation conversion function used for the gradation conversion processing in accordance with the type of the imaging device and target; and a frequency emphasis function used for the frequency emphasis processing and indicating a degree of frequency emphasis in which an average density around respective points of the

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medical image is used as a variable in accordance with the type of the imaging device and the imaging condition,

gradation conversion processing and frequency emphasis processing are performed differently for different imaging devices and different imaging conditions, and

the image processing section performs gradation conversion processing based on a plurality of gradation processing parameters that are individually input by a user, each gradation processing parameter relating to how a different aspect of an original image is translated into a revised image,

said interested area designating section designates the area of interest on the medical image displayed in said image display section and designates a coefficient indicating a degree of drop of the luminance of the area, excluding the area of interest, in response to the operation,
and

said image display section lowers the luminance of the area, excluding the area of interest designated by said interested area designating section, down to a luminance in accordance with the coefficient designated by said interested area designating section to display the medical image.

17-19. (Cancelled)